

I. 35 U.S.C § 102 (e)

Claims 1-5, 14-18 and 24 were rejected under 35 U.S.C. §102 e) as being anticipated by Schram.

Applicants respectfully traverse. Schram does not disclose "a detector primer comprising a diagnostic nucleotide for the single nucleotide polymorphism which is a 3' terminal nucleotide of the detector primer or about one to four nucleotides from the 3' terminal nucleotide" as claimed in the present application. Schram's disclosure regarding a single nucleotide difference in the dnaJ sequences of *M. avium* and *M. intracellulare* to which the amplification primers hybridize is not a disclosure of a single nucleotide difference at the 3' terminus or about one to four nucleotides from the 3' terminus.

The portion of Schram's amplification primer that hybridizes to the dnaJ sequence is the 3' end of each SDA primer (column 5, lines 17-22) that Schram defines as "the target binding sequence" (column 3, lines 31-33, emphasis added). Schram goes on further in its definition of an amplification primer to describe how for amplification methods other than SDA "that do not require specialized sequences at the ends of the target, the amplification primer generally consists essentially of only the target binding sequence" (column 3, lines 45-48, emphasis added). Moreover, the specific dnaJ sequence to which the Schram amplification primers are directed has a single nucleotide difference "in the region where the amplification primers hybridize" (column 4, lines 58-63, emphasis added).

Thus, it is respectfully submitted that, when read in context by one skilled in the art, Schram's disclosure of target binding sequence at the 3' end of amplification primers is not describing the 3' terminal nucleotide of its amplification primer. Hence, Schram does not disclose each and every element of the claimed invention.

II. 35 U.S.C. § 103 (a) (Schram)

Claims 6-13 were rejected under 35 U.S.C. §103(a) as being obvious over Schram as applied to claim 1 in view of U.S. Patent No. 5,270,184 ("Walker").

Claims 19-21 were rejected under 35 U.S.C. §103(a) as being obvious over Schram as applied to claim 18 in view of Walker.

Claims 22 and 23 were rejected under 35 U.S.C. §103(a) as being obvious over Schram as applied to claim 1 in view of U.S. Patent No. 6,025,130 ("Thomas").

Applicants respectfully traverse. All of the above obviousness rejections are based on the applicability of Schram against the claims. However, as explained above, Schram fails to disclose elements of the claims. Furthermore, the additional cited references fail to address the missing elements of Schram. Thus, it is respectfully submitted that one of ordinary skill in the art would not find the cited claims to be obvious in view of cited references.

III. 35 U.S.C. §103(a) (Vary)

Claims 1-21, 24 and 55-62 were rejected under 35 U.S.C. §103(a) as being unpatentable over Vary in view of Schram and Walker.

Claim 22 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Vary and Schram as applied to claim 1 and further in view of Thomas.

In Paper No. 12, it is acknowledged that obviousness can only be established by combining or modifying the teachings of cited references to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in knowledge generally available to one of ordinary skill in the art. It is then asserted that the teaching, suggestion, or motivation to combine or modify the teachings of Vary and Schram is found in the references themselves. Specifically, it is asserted that:

Schram et al. teach a detector primer having a diagnostic nucleotide at the 3' end for use in strand displacement reactions for detecting a single nucleotide difference efficiently (column 4, lines 56-61) and Vary et al. teach detector primers having a diagnostic nucleotide at the 3' end for detecting a single nucleotide difference (column 2, lines 57-68) and one skilled in the art would have been motivated to apply the 3' detector primers of Vary et al. to 3' detector primers and strand displacement taught by Schram et al. for the expected benefit of efficient and specific single-nucleotide detection as taught by Vary et al. (column 2, lines 35-38) and Schram et al. (column 4, lines 56-61).

Applicants respectfully traverse. As explained above, Schram does not provide such a teaching. Thus, one skilled in the art would not find such a motivation to combine the teachings of Vary and Schram in the references themselves.

IV. Obviousness-Type Double Patenting

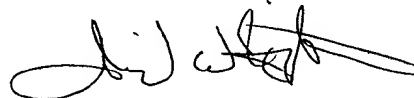
Claims 1-8, 11, 12, 15-18 and 24 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3, 7, 10 and 13 of U.S. Patent No. 5,681,705 (Schram).

Applicants respectfully traverse. As explained above, Schram neither discloses nor claims a detector primer comprising a diagnostic nucleotide for the single nucleotide polymorphism which is a 3' terminal nucleotide of the detector primer or about one to four nucleotides from the 3' terminal nucleotide as claimed in the present application. Thus, Applicants respectfully submit that this double patenting rejection should be withdrawn.

IV. Conclusions

The claims of the present application are believed to be in condition for allowance.

Respectfully submitted,



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